BACON BRIDGE
Spanning Moniteau Creek
at the old town of Bacon
Jamestown Vicinity
Moniteau County
Missouri

HAER No. MO-32

PHOTOGRAPHS

HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
Department of the Interior
P. O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD
BACON BRIDGE

I. INTRODUCTION

Location: Spanning the Moniteau Creek at the north edge of the no longer extant town of Bacon, Missouri in Moniteau County, Missouri. The bridge lies in the NW¼ NE¼ SE¼ of Section 28, Township 46 North, Range 14 West on the Fifth Principle Meridian.

Quadrangle: Centertown Northwest 7.5 minute series.

UTM: 15/4284530N
547560E

Date of Construction:
1885 first structure
1906 reconstructed after flood
1920 piers and approaches were modified
1950 the north approach was modified

Present Owner: Moniteau County, Missouri
Moniteau County Courthouse
California, Missouri

Present Use: Vehicular bridge. The bridge will be replaced during 1987 by a new concrete bridge.

Significance: Bacon Bridge (Moniteau Bridge # 2) is one of the earliest surviving Pratt through truss bridges in central Missouri. Preserved in the evolution of this structure is the record of the struggle between its engineers and sometimes malevolent Moniteau Creek.

Historian: Craig Sturdevant, Archaeologist, Environmental Research Center of Missouri, Inc. September 1987.

II. HISTORY

A. THE WROUGHT IRON TRUSS BRIDGE IN MISSOURI & MONITEAU COUNTY

Metal truss bridge construction in Missouri and the Nation after the Civil War left the railroads, where they were technologically developed, and began replacing fords and wooden bridges on the road system. Through 106 review (1880 - 1900 bridges), approximately 50 Pratt through truss, Pratt pony truss, and Bedstead truss with Pratt configuration bridges have been identified in Missouri (Personal Communication: Lee Gilliard). These bridges appear to have been utilized primarily over narrower crossings during this time period. Many of those so identified have been since removed or are no longer extant at their original location (Personal Communication: Lee Gilliard). Masonry piers are unusual in the general area although not unique (Personal Communication: Lee Gilliard). At present, Missouri bridges have not been inventoried and there is no information regarding numbers of Pratt through truss bridges currently extant in Missouri (Personal Communication: Lee Gilliard). While early in terms of patent date (1844) (Comp and Jackson 1977), the Pratt through truss only began to become important in terms of numbers constructed in Missouri toward the latter part of 19th century (Personal Communication: Lee Gilliard).

The court procedures for addressing the needs of the county road system and procuring bridges to fill those needs changed little during the period although record quality diminished through the latter one-half of the period in respect to bridge construction and repair in terms of detailing costs not identifying specific bridges. Also, historic contracts, plans, and specifications have failed to be preserved. The typical procedures, which include Bacon Bridge, began with a petition accepted by the county bridge commissioner who is also typically the county surveyor. The court receives the required bond from the successful bidder or bidders where the projects are partitioned. The bridge commissioner makes periodic reports to the county court as to the condition of standing bridges and recommendations for repairs to the latter as well as for partial payments for construction. Normally, the bridge company will receive substantial partial payment at the completion of the primary structure and final payment and release of bond following the bridge commissioner's inspection and recommendation of a completed project. On the basis of review of county records which are reported below, it is apparent that the Bacon Bridge followed these procedures.

Wrought iron bridge construction in Moniteau County picked up momentum through the last 15 years of the 19th century and peaked during the first 15 years of the 20th century (Books 1-12 County Court Minutes - County Court Record and County Road Bridge Books 1-5). As the cost of wrought iron truss structures rose sharply simple I beam platforms with wood or concrete decks or total concrete structures became the norm. The latter occurred following 1920. It is further apparent that wrought iron truss construction in Moniteau County followed the general rule of placement of such bridges at fords and where wooden bridges once stood and thus crossings at narrower points along streams (Personal Communication: Lee Gilliard). It is probable that the relatively wide crossing of Bacon Bridge which includes additions of approaches was the result of necessity caused by bank erosion as discussed below.

B. CONSTRUCTION CHRONOLOGY

Bacon Bridge (Moniteau Creek Bridge # 2) was commissioned on October 6th, 1884 approximately 6 years before the platting of the town of Bacon which it would later serve. The lowest bid for construction was accepted Wrought Iron Bridge Company of Canton, Ohio for $2,440.00, Johnathan English, a local resident and also a significant

figure in Missouri 19th century history, supervised the masonry work which was said to be the best seen in the county at that time (California Democrat August 12, 1987). The probable completion date for the structure was between March 2, 1885 (Authorization date of partial payment of $1,464.00 - Page 210 County Court Record Book # 5) and May 7, 1885 (Bridge Commissioner's final report - Page 17 County Road and Bridge Book # 5). The flood of early September 1905 washed the bridge off its piers. The same flood episode also removed three other major bridges in the county. A report to the county commissioners recorded October 2, 1905 in the Road and Bridge Book # 7 (Pages 466-7) on the four bridges stated that the bridges lie in positions liable to cause further damage. It was recommended that the county immediately seek bids for reconstruction per plans and specs on file with the county clerk. The bid of Interstate Bridge Company of Kansas City, Missouri for the reconstruction of the four bridges was $6,200.00. This was the first major project for Interstate Bridge Company in Moniteau County. The company soon became the primary bridge builder in the county and outbid Wrought Iron Bridge Co. of Canton, Ohio and A. M. Blodgett of Kansas City in most projects. Bacon Bridge was the last of the four bridges to be reconstructed and was back in service by the summer of 1906.

It remains unclear as to whether the current structure is a reconstruction of the Canton, Ohio Co. 1885 bridge or an entirely new construction built by Interstate in 1906. In favor of the former conclusion are the types of major repairs and replacements which are evident in the structure that would be expected from a reconstruction. The court record also recommended reconstruction. Further, the difference between Interstate's bid of $6,200.00 and the county's $15,000.00 estimate of loss as quoted in a newspaper article at the time (California Democrat August 12, 1987 - requoted) suggests restoration rather than replacement.

Changes from original form to present form include addition ofmasonry piers, raising the bridge height, and the addition of a longer approach structure in the early 1920's. Also, iron I beams replaced approach structure wood beams in the 1950's.

C. LOCATION

Bacon Bridge lies in a rural setting and spans the Moniteau Creek from the foot of a promontory on the south or right side of the stream to a low terrace on the left side. For at least the first 30 years of the bridge's

history, the setting included the small town of Bacon, Missouri which was named for the prominent agricultural activity of the area. The town had 12 lots, a post office, a general store, and a blacksmith. Only one structure and a community well remain as evidence of this historic community on the south end of Bacon Bridge. The nearest active town at the present is Jamestown which is approximately 3 miles north and 0.5 miles west of Bacon Bridge. The bridge may also be described as lying in the NW NE SE 1/4 of Section 28, Township 46 North, Range 14 West of the Fifth Principle Meridian.

III. THE BRIDGE

A. DESCRIPTION

The Bacon Bridge is a 206 foot 5 span bridge with a 100 foot 6 panel pin connected high pratt through truss main span with a portal clearance of 13.1 feet and horizontal and vertical measurements of 13.06 feet. The main span is formed of the following tension and compression members: The top and bottom lateral bracing and the hip verticals are rods. The diagnonals and bottom chords are eye bars. The top chords and the inclined end posts are braced and reinforced channel iron with rolled steel rivited to the

upper surfaces. The vertical posts are latticed channel iron. The struts and the four stringers are channel iron. The floorbeams are I beams. The deck is rough sawn oak. The portal bracing is angle iron lattice with arched corner bracing. The floor beams are hung with U bolts. The approach structures are simple 1 beam platforms with rough sawn oak decking. The northern approach crosses 3 spans of 20 feet, 33 feet, and 33 feet from masonry abutment to lattice braced channel iron pier to masonry pier to main span masonry pier. The southern approach spans 20 feet from masonry abutment to the main span masonry pier. The structure has a simple double angle iron inside rail from abutment to abutment which has replaced the original wood railings.

The bridge has no metal ornamentation and the bridge plates are missing.

B. MODIFICATIONS

Modifications and repairs following the 1905 flood include splicing and replacement of some of the upper chord structures, replacement of some of the diagonals and lateral bracing, and possible restructuring of the floor which may have had oak stringers.

By the early 1920's, the masonry piers had received an added 6 feet of new stones and a third north approach span with its latticed channel iron pier and new masonry abutment was in place. The final form of the approach spans was reached in the 1950's with the construction of the I beam platforms. The nature of the original approach spans is unknown although interpretation of the county court peition record and oral history accounts from long time residents of the area suggest that the pre-1905 and the pre-1920 approach structures were primarily wood truss or wood platform systems.

C. OWNERSHIP AND FUTURE

The Bacon Bridge has been owned and maintained by Moniteau County since its original construction in 1885. It has been determined to be obsolete and insufficient to carry the current and projected traffic and load demands. A replacement structure is under construction immediately downstream from the Bacon Bridge.

IV. BIBLIOGRAPHY

Comp, T. Alland and Donald Jackson
1977 Bridge Truss Types: A Guide to Dating and Identifying. American Association for State and Local History Technical Leaflet 95. History News. Volume 32, Number 5, May 1977.

Chapman, Grant
1987 "Bacon Holds a Place in County History" California Democrat, August 12, 1987, page 9.

Proceedings of the Moniteau County Court
1884 through 1950
Books 1 through 12. Moniteau County Courthouse, California, Missouri.

Moniteau County Road and Bridge Books
1885 through 1920
Books 1 through 5. Moniteau County Courthouse, California, Missouri.

Personal Communication
1988 Lee Gilliard. Bridge Historian. Missouri Department of Natural Resources/Historic Preservation Program. Jefferson City.